

IN THE CLAIMS:

Please cancel Claims 15-17, 58, 59 and 62-64 without prejudice.

Please amend Claim 1-5, 9, 14, 18-20, 57, 60, and 67 as follows:

1. (TWICE AMENDED) A load lock as in Claim 7, wherein said wafer carrier attached to said elevator plate.

2. (TWICE AMENDED) A load lock as set forth in Claim 7, wherein said load lock is formed at least in part by a first housing portion and an auxiliary housing portion that is removably coupled to said first housing portion.

3. (AMENDED) A load lock as set forth in Claim 7, wherein said wafer carrier is adapted for receiving only a pair of wafers.

4. (AMENDED) A load lock as set forth in Claim 7, wherein said wafer carrier includes at least an unload position and a load position.

5. (AMENDED) A load lock as set forth in Claim 7, wherein said wafer carrier is located on top of said elevator plate.

6. (UNCHANGED) A load lock as set forth in Claim 5, wherein said elevator plate is configured to move vertically in said load lock.

7. (PREVIOUSLY AMENDED) A load lock that defines at least partially a first chamber and an auxiliary chamber, said load lock comprising:

a first port and a second port, said first and second ports for moving a wafer into and out of said load lock;

an elevator plate including a wafer carrier that is adapted for receiving a plurality of wafers; and

said wafer carrier being moveable between a first position where said wafer carrier is in said first chamber and a second position where said wafer carrier is in said auxiliary chamber and said elevator plate substantially seals said auxiliary chamber from said first chamber, wherein said first and second ports open into said first chamber when said elevator plate is in said second position.

8. (UNCHANGED) A load lock port as set forth in Claim 7, wherein said load lock comprises a first housing portion and an auxiliary housing portion that at least partially defines the auxiliary chamber, said first and second ports being located on said first housing portion

9. (AMENDED) A load lock that defines at least partially a first chamber and an auxiliary chamber, said load lock comprising:

a first port and a second port, said first and second ports for moving a wafer into and out of said load lock;

an elevator plate including a wafer carrier that is adapted for receiving a plurality of wafers and is attached to said elevator plate; and

said wafer carrier and said elevator plate being moveable between a first position where said wafer carrier is in said first chamber and a second position where said wafer carrier is in said auxiliary chamber and said elevator plate substantially seals said auxiliary chamber from said first chamber, wherein said first port opens into said first chamber and said second port opens into said auxiliary chamber.

10. (UNCHANGED) A load lock as set forth in Claim 9, wherein said first port communicates with a wafer handling module.

11. (PREVIOUSLY AMENDED) A load lock as set forth in Claim 10, wherein said load lock comprises a first housing portion and an auxiliary housing portion, said first port being located on said first housing portion and said second port being located on said auxiliary housing portion.

12. (UNCHANGED) A load lock as set forth in Claim 9, wherein said second port communicates with a wafer handling module.

13. (UNCHANGED) A load lock port as set forth in Claim 12, wherein said load lock comprises a first housing portion and an auxiliary housing portion, said first port being located on said first housing portion and said second port being located on said auxiliary housing portion.

14. (THRICE AMENDED) A load lock that defines at least partially a first chamber and an auxiliary chamber, said load lock comprising:

a first port and a second port, said first and second ports for moving a wafer into and out of said load lock;

an elevator plate including a wafer carrier that is adapted for receiving a plurality of wafers and is attached to said elevator plate; and

said wafer carrier and said elevator plate being moveable between a first position where said wafer carrier is in said first chamber and a second position where said wafer carrier is in said auxiliary chamber and said elevator plate substantially seals said auxiliary chamber from said first chamber, wherein said first port is configured to receive said wafer carrier and said wafer carrier and said elevator plate being moveable between an outside position where said wafer carrier is outside said load lock and an inside position wherein said wafer carrier is inside said load lock.

15. (CANCELED) A load lock that defines at least partially a first chamber and an auxiliary chamber, said load lock comprising:

a first port and a second port, said first and second ports for moving a wafer into and out of said load lock;

an elevator plate including a wafer carrier that is adapted for receiving a plurality of wafers; and

said wafer carrier being moveable between a first position where said wafer carrier is in said first chamber and a second position where said wafer carrier is in said auxiliary chamber and said elevator plate substantially seals said auxiliary chamber from said first chamber wherein said first port is configured to receive said wafer carrier and said wafer carrier being moveable between an outside position where said wafer carrier is outside said load lock and an inside position wherein said wafer carrier is inside said load lock, wherein said load lock further includes a second elevator plate configured such that said second elevator plate substantially closes said first port when said wafer carrier is in said inside position.

16. (CANCELED) A load lock as set forth in Claim 15, wherein said second port opens into said auxiliary chamber.

17. (CANCELED) A load lock as set forth in Claim 15, wherein said second port opens into said first chamber.

18. (AMENDED) A load lock as set forth in Claim 7, wherein said auxiliary chamber includes inner walls that are adapted to withstand an auxiliary fluid.

19. (TWICE AMENDED) A load lock as set forth in Claim 7, wherein said auxiliary chamber includes inner walls that are adapted to withstand an auxiliary fluid and wherein said auxiliary fluid comprises HF vapor.

20. (AMENDED) A load lock as set forth in Claim 7, wherein said load lock further includes heating elements.

21. (UNCHANGED) A load lock as set forth in Claim 20, wherein said heating elements are located within said auxiliary chamber.

22. (PREVIOUSLY AMENDED) A load lock that defines at least partially a first chamber and an auxiliary chamber, said load lock comprising:

a first port and a second port, said first and second ports for moving a wafer into and out of said load lock;

an elevator plate including a wafer carrier that is adapted for receiving a plurality of wafers; and

said wafer carrier being moveable between a first position where said wafer carrier is in said first chamber and a second position where said wafer carrier is in said auxiliary chamber and said elevator plate substantially seals said auxiliary chamber from said first chamber, wherein said load lock further includes heating elements and wherein said heating elements are located upon the elevator plate.

57. (TWICE AMENDED) A system for processing substrates, comprising

a load lock chamber including a lower portion having a first inner width and an upper portion attached to the lower portion and having a narrower second inner width, the chamber including a first port and a second port, each of the ports sized to pass substrates therethrough, the load lock chamber further comprising a moveable platform configured to support at least one substrate thereon and sized to have a width less than the first inner

width and greater than the second inner width to enable selectively sealing the upper portion with the at least one substrate supported thereon;

an auxiliary processing system selectively communicating with an opening in the upper chamber;

a substrate handling chamber selectively communicating with the load lock chamber through the first port; and

at least one process chamber selectively communicating with the substrate handling chamber, wherein the load lock chamber selectively communicates with a clean room environment through the second port and the first port is located in the lower portion.

58. (CANCELED) The system of Claim 57, wherein the load lock chamber selectively communicates with a clean room environment through the second port.

59. (CANCELED) The system of Claim 58, wherein the first port is located in the lower portion.

60. (AMENDED) A system for processing substrates, comprising:

a load lock chamber including a lower portion having a first inner width and an upper portion attached to the lower portion and having a narrower second inner width, the chamber including a first port and a second port, each of the ports sized to pass substrates therethrough, the load lock chamber further comprising a moveable platform configured to support at least one substrate thereon and sized to have a width less than the first inner width and greater than the second inner width to enable selectively sealing the upper portion with the at least one substrate supported thereon;

an auxiliary processing system selectively communicating with an opening in the upper chamber;

a substrate handling chamber selectively communicating with the load lock chamber through the first port; and

at least one process chamber selectively communicating with the substrate handling chamber, wherein the load lock chamber selectively communicates with a clean

room environment through the second port, the first port is located in the lower portion and the second port is located in the lower portion.

61. (PREVIOUSLY AMENDED) A system for processing substrates, comprising a load lock chamber including a lower portion having a first inner width and an upper portion having a narrower second inner width, the chamber including a first port and a second port, each of the ports sized to pass substrates therethrough, the load lock chamber further comprising a moveable platform configured to support at least one substrate thereon and sized to have a width less than the first inner width and greater than the second inner width to enable selectively sealing the upper portion with the at least one substrate supported thereon;

a substrate handling chamber selectively communicating with the load lock chamber through the first port; and

at least one process chamber selectively communicating with the substrate handling chamber, wherein the first port is located in the upper portion.

62. (CANCELED) A system for processing substrates, comprising

a load lock chamber including a lower portion having a first inner width and an upper portion having a narrower second inner width, the chamber including a first port and a second port, each of the ports sized to pass substrates therethrough, the load lock chamber further comprising a moveable platform configured to support at least one substrate thereon and sized to have a width less than the first inner width and greater than the second inner width to enable selectively sealing the upper portion with the at least one substrate supported thereon;

a substrate handling chamber selectively communicating with the load lock chamber through the first port; and

at least one process chamber selectively communicating with the substrate handling chamber, wherein the upper portion includes treatment gas injectors.

63. (CANCELED) A system for processing substrates, comprising

a load lock chamber including a lower portion having a first inner width and an upper portion having a narrower second inner width, the chamber including a first port

and a second port, each of the ports sized to pass substrates therethrough, the load lock chamber further comprising a moveable platform configured to support at least one substrate thereon and sized to have a width less than the first inner width and greater than the second inner width to enable selectively sealing the upper portion with the at least one substrate supported thereon;

a substrate handling chamber selectively communicating with the load lock chamber through the first port; and

at least one process chamber selectively communicating with the substrate handling chamber, wherein the upper portion includes treatment gas injectors and wherein the treatment gas injectors communicate with a source of HF vapor.

64. (CANCELED) A system for processing substrates, comprising:

a load lock chamber including a lower portion having a first inner width and an upper portion having a narrower second inner width, the chamber including a first port and a second port, each of the ports sized to pass substrates therethrough, the load lock chamber further comprising a moveable platform configured to support at least one substrate thereon and sized to have a width less than the first inner width and greater than the second inner width to enable selectively sealing the upper portion with the at least one substrate supported thereon;

a substrate handling chamber selectively communicating with the load lock chamber through the first port; and

at least one process chamber selectively communicating with the substrate handling chamber, wherein the upper portion includes treatment gas injectors and wherein the treatment gas injectors communicate with an oxidant source.

65. (UNCHANGED) The system of Claim 57, wherein the moveable platform includes two shelves for supporting substrates.

66. (UNCHANGED) The system of Claim 57, wherein said first port opens into said lower chamber and said second port opens into said upper chamber.

67. (PREVIOUSLY AMENDED) A system for processing substrates, comprising

a load lock chamber including a lower portion having a first inner width and an upper portion attached to the lower portion and having a narrower second inner width, the chamber including a first port and a second port, each of the ports sized to pass substrates therethrough, the load lock chamber further comprising a moveable platform configured to support at least one substrate thereon and sized to have a width less than the first inner width and greater than the second inner width to enable selectively sealing the upper portion with the at least one substrate supported thereon;

an auxiliary processing system selectively communicating with an opening in the upper chamber;

a substrate handling chamber selectively communicating with the load lock chamber through the first port; and

at least one process chamber selectively communicating with the substrate handling chamber, wherein said first port opens into said upper chamber and said second port opens into said lower chamber.

Please add the following new claims:

68. (NEW) A load lock as set forth in Claim 9, wherein said load lock is formed at least in part by a first housing portion and an auxiliary housing portion that is removably coupled to said first housing portion.

69. (NEW) A load lock as set forth in Claim 9, wherein said wafer carrier is adapted for receiving only a pair of wafers.

70. (NEW) A load lock as set forth in Claim 9, wherein said wafer carrier includes at least an unload position and a load position.

71. (NEW) A load lock as set forth in Claim 9, wherein said wafer carrier is located on top of said elevator plate.

72. (NEW) A load lock as set forth in Claim 71, wherein said elevator plate is configured to move vertically in said load lock.

73. (NEW) A load lock as set forth in Claim 9, wherein said auxiliary chamber includes inner walls that are adapted to withstand an auxiliary fluid.

74. (NEW) A load lock as set forth in Claim 73, wherein said auxiliary fluid is HF vapor.

75. (NEW) A load lock as set forth in Claim 9, wherein said load lock further includes heating elements.

76. (NEW) A load lock as set forth in Claim 75, wherein said heating elements are located within said auxiliary chamber.

77. (NEW) A load lock as set forth in Claim 14, wherein said load lock is formed at least in part by a first housing portion and an auxiliary housing portion that is removably coupled to said first housing portion.

78. (NEW) A load lock as set forth in Claim 14, wherein said wafer carrier is adapted for receiving only a pair of wafers.

79. (NEW) A load lock as set forth in Claim 14, wherein said wafer carrier includes at least an unload position and a load position.

80. (NEW) A load lock as set forth in Claim 14, wherein said wafer carrier is located on top of said elevator plate.

81. (NEW) A load lock as set forth in Claim 80, wherein said elevator plate is configured to move vertically in said load lock.

82. (NEW) A load lock as set forth in Claim 14, wherein said auxiliary chamber includes inner walls that are adapted to withstand an auxiliary fluid.

83. (NEW) A load lock as set forth in Claim 82, wherein said auxiliary fluid is HF vapor.

84. (NEW) A load lock as set forth in Claim 14, wherein said load lock further includes heating elements.

85. (NEW) A load lock as set forth in Claim 84, wherein said heating elements are located within said auxiliary chamber.

86. (NEW) A load lock as in Claim 22, wherein said wafer carrier is attached to said elevator plate.

87. (NEW) A load lock as set forth in Claim 22, wherein said load lock is formed at least in part by a first housing portion and an auxiliary housing portion that is removably coupled to said first housing portion.

88. (NEW) A load lock as set forth in Claim 22, wherein said wafer carrier is adapted for receiving only a pair of wafers.

89. (NEW) A load lock as set forth in Claim 22, wherein said wafer carrier includes at least an unload position and a load position.

90. (NEW) A load lock as set forth in Claim 22, wherein said wafer carrier is located on top of said elevator plate.

91. (NEW) A load lock as set forth in Claim 90, wherein said elevator plate is configured to move vertically in said load lock.

92. (NEW) A load lock as set forth in Claim 22, wherein said auxiliary chamber includes inner walls that are adapted to withstand an auxiliary fluid.

93. (NEW) A load lock as set forth in Claim 92, wherein said auxiliary fluid is HF vapor.

94. (NEW) A load lock as set forth in Claim 22, wherein said load lock further includes heating elements.

95. (NEW) A load lock as set forth in Claim 94, wherein said heating elements are located within said auxiliary chamber.

96. (NEW) The system of Claim 57, further comprising a substrate carrier that is attached to said moveable platform.

97. (NEW) The system of Claim 57, further comprising a substrate carrier on said moveable platform, the substrate carrier being adapted to receive at least a pair of substrates

98. (NEW) The system of Claim 98, wherein said substrate carrier is located on top of said moveable platform and said moveable platform is configured to move vertically in said load lock chamber.

99. (NEW) The system of Claim 57, wherein the upper portion includes treatment gas injectors that communicate with a source of HF vapor.

100. (NEW) The system of Claim 57, wherein the upper portion includes treatment gas injectors that communicate with an oxidant source.

101. (NEW) A load lock as set forth in Claim 57, wherein said load lock chamber further includes heating elements.

102. (NEW) A load lock as set forth in Claim 101, wherein said heating elements are located within said upper portion.

103. (NEW) The system of Claim 61, further comprising a substrate carrier that is attached to said moveable platform.

104. (NEW) The system of Claim 61, further comprising a substrate carrier on said moveable platform, the substrate carrier being adapted to receive at least a pair of substrates

105. (NEW) The system of Claim 104, wherein said substrate carrier is located on top of said moveable platform and said moveable platform is configured to move vertically in said load lock chamber.

106. (NEW) The system of Claim 61, wherein the upper portion includes treatment gas injectors that communicate with a source of HF vapor. ✓

107. (NEW) The system of Claim 61, wherein the upper portion includes treatment gas injectors that communicate with an oxidant source.

108. (NEW) A load lock as set forth in Claim 61, wherein said load lock chamber further includes heating elements.

109. (NEW) A load lock as set forth in Claim 108, wherein said heating elements are located within said upper portion.

110. (NEW) The system of Claim 67, further comprising a substrate carrier that is attached to said moveable platform.

111. (NEW) The system of Claim 67, further comprising a substrate carrier on said moveable platform, the substrate carrier being adapted to receive at least a pair of substrates

112. (NEW) The system of Claim 111, wherein said substrate carrier is located on top of said moveable platform and said moveable platform is configured to move vertically in said load lock chamber.

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113. (NEW) The system of Claim 67, wherein the upper portion includes treatment gas injectors that communicate with a source of HF vapor.

114. (NEW) The system of Claim 67, wherein the upper portion includes treatment gas injectors that communicate with an oxidant source.

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DI 115. (NEW) A load lock as set forth in Claim 67, wherein said load lock chamber further includes heating elements.

clt 116. (NEW) A load lock as set forth in Claim 115, wherein said heating elements are located within said upper portion.

COMMENTS

In response to the Office Action mailed November 28, 2001, Applicants respectfully request the Examiner to reconsider the above-captioned application in view of the foregoing amendments and the following comments. Claims 1-67 are pending and Claims 23-56 have been previously withdrawn as directed to a non-elected invention. By this amendment, Claims 15-17, 58, 59 and 62-64 have been canceled and Claims 1-5, 9, 14, 18-20, 57, 60 and 67 have been amended. Claims 68-116 have been added.

The specific changes to the specification and the amended claims are shown on a separate set of pages attached hereto and entitled VERSION WITH MARKINGS TO SHOW CHANGES MADE, which follows the signature page of this Amendment. On this set of pages, the insertions are underlined (e.g., insertions) while the deletions are in bold between brackets (e.g., [deletions]).

1. Allowed Claims 7-13, 22 and 61

The Examiner has indicated that Claims 7-13, 22 and 61 are in condition for allowance. However, Claims 9-13 depend upon rejected Claim 1. As such, Applicant has amended Claim 9 such that it is in independent form and includes all the limitations of the base claim.

2. Objected to Claims

The Examiner has indicated that Claims 14, 59, 60 and 67 contain patentable subject matter and would be in condition for allowance if rewritten into independent form. By this Amendment, Applicants have rewritten Claims 14, 60 and 67 into independent form. Claim 59 has been canceled and its limitations have been added to amended Claim 57. Therefore, Applicants respectfully submit that Claims 14, 57, 60 and 67 are in condition for allowance.

3. New Claims

Applicant has added Claims 68-116. New Claims 68-76 depend upon allowable Claim 9. New Claims 77-85 depend upon allowable Claim 14. New Claims 86-95 depend upon allowable Claim 22. New Claims 96-102 depend upon allowable Claim 57. New Claims 103-109 depend upon allowable Claim 61. New Claims 110-116 depend upon allowable Claim 67. As such, Applicants respectfully submit that New Claims 68-116 are in condition for allowance because they depend upon an allowable claim and they recite additional patentable subject matter.

4. Objections to the Drawings

The Examiner has objected to the drawings. In response to this objection, Applicants have amended the specification to correct the informality noted by the Examiner. Specifically, the reference number 206 at page 16, lines 17-19 has been changed to 406. In light of this amendment to the specification, Applicants respectfully submit that Applicants do not have to submit a proposed drawing correction or corrected drawings.

5. Rejected Claims

Claims 1-6, 15-21, 57, 58 and 63-66 stand rejected. For at least the reasons set forth in Applicants previous Amendments dated April 29, 2002 and September 5, 2001, Applicants respectfully disagree with the rejection of these claims. Nevertheless, to advance prosecution of the present application, Applicants have amended or canceled these claims. Specifically, as amended, Claims 1-6, 18-21 now depend upon allowable Claim 7 and Claims 15-17, 58, 59 and 62-64 have been canceled. Claim 57 has been amended. Applicants reserve the right to pursue the rejected claims in their original form in a continuing application.

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CONCLUSION

For the foregoing reasons, it is respectfully submitted that the rejections set forth in the outstanding Office Action are inapplicable to the present claims and specification. Accordingly, early issuance of a Notice of Allowance is most earnestly solicited.

The undersigned has made a good faith effort to respond to all of the rejections in the case and to place the claims in condition for immediate allowance. Nevertheless, if any undeveloped issues remain or if any issues require clarification, the Examiner is respectfully requested to call Applicant's attorney in order to resolve such issue promptly.

Respectfully submitted,

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